Digitized CCTV System with Network
User Manual

Chapter 1 Introduction

ZT-DVR, ZT Digitized CCTV System with Network, consists of series products of hardware and software after many years development. Based on MPEG1/MPEG4's video compression criterion, support PAL/NTSC television standard, guarantee Audio video synchronism. Video/Audio transfers on LAN, ADSL, DDN, PTSN and so on. Using ZT series products you can construct one big Digit Video Matrix. Supply the different necessary products, Alarm interface, Decoder, Analog matrix.

The ZT-DVR consists of two main software packages:

<1> Host software package, according to the video compression method and the card producer, sort to be divided into further, Hikvison's **MPEG1/MPEG4** and Thakral's **MPEG1/MPEG4**.

<2> Network client-side software package:
Remote view the video transferred from the host software and control the host' PTZ and others.

Notes: Some functions are custom-defined and must be ordered.

$1-1 Fundamental features

$1-1-1 Compression
MPEG1, MPEG4;

$1-1-2 Operating system
Windows NT, Windows 2000;

$1-1-3 Input / Output
Single device supports 1-24 Audio/Video input;
Single device supports 16 Alarm-in and 2 Alarm-out, Expandable to 32 Alarm-in and 4 Alarm-out, Custom-define for Expandance;
ZT-RM supports 64 Alarm-in and 64 Alarm-out maximum.

$1-1-4 Display, Record and Playback

③ Display, Record and Playback of 25F/S(PAL) and 30F/S(NTSC) and real time audio/video for each channel;

③ Display mode : 1, 4, 6, 9, 16, 24 ;

③ arbitrary adjust Bright, Contrast, Saturation, Hue till optimal picture quality;

③ Support Full-screen display;

③ Two preview mode of the compress card : DirectDraw and Overlay;

③ Camera Tour when on 1 or 4 display mode. Stay time may set to 0-60seconds;

③ On Screen Display: Date/Time and Characters;

③ Video record patterns: Manual Record, Timer Record, Alarm Record, Pre-Record and Delay-Stop when Alarm Record;

③ User definition to recorded video file size;

③ Flexible recorded file management;

③ Play files sorted by time/date, camera channel;

③ Play one or four camera records synchronously;

③ May check watermark in recorded file;

③ Play rate：4, 2,1,1/2,1/4,1/8,1/16,Single step;

$1-1-5 Motion detection and Alarm

③ Support motion detection and record for all Video input;
③ Video lost alarm;
③ Motion detection area 1 to 8;
③ Optional Timer Start/Stop Motion detection;
③ Mapping Motion detection to Alarm input and may send the alarm signal to Network client;
③ Using ZJ-RM to expand Alarm input/output;
③ Pop up Map when alarm in. Hierarchical map structure almost no limit;
③ Record when alarm is trigged;
③ Alarm log to record alarm history;
③ Arm mode： Timer, Manual, Manual Delay;
③ Arm object： Sensor, Motion detection, or both;
③ Auto or manual switch off Alarm out;
③ Speech sounds if alarm trigs;

$1-1-6 Network and Administration

③ Support LAN, PSTN, ISDN, ADSL/VDSL, DDN, FR etc;
③ User level to operation limit;
③ Support recorded on Network Drive if performance is enough;
③ Multicast on LAN optional;
③ Group control：construct digital matrix system;

$1-1-7 other function

③ Video record, Playback, Preview, Network transmitting can operate simultaneously;
③ Up to 12 IDE Hard Disks to big record capacity;
③ Picture snapshot, enlarge, printout when playback;
③ Support hard disk sleep;
③ Support many kinds of decoder protocol. Such as ZT, Pelco-P/D, XYZ Speed Dome, HN, and Panasonic, YAAN;
③ Directly drag on Preview picture to control PTZ;
③ Watchdog in ZT-ALM alarm interface monitors the Host and do reset when host run abnormal. The ZT-ALM will close Alarm Out 2 when restart Host fail three times;
③ Multi-choices program to exit：
  1) Exit to Windows desktop;
  2) Exit to log on;
  3) Exit to Shutdown;
  4) Power off (Require ACPI);
③ Selectable User level 1-4 for exiting program;
③ If compression card fail, Record lamp to grey and beep;
③ Some systems key may be disabled;
③ Audio preview：listen real-time voice at field
③ Support Program minimization;
③ Support ZJ matrix and traditional matrix, such as AD2150, AD2052 and their compatible matrixes, Pelco97xx's matrix;
③ Support LAN, PSTN, ISDN, ADSL/VDSL, DDN, FR etc;

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$1-2-6 Stability and Reliability

The ZT-DVR software is tested strictly when developing new function and using new type card. When on long period test, usually the system is continually run over two months. The ZT-ALM supply watchdog function that monitor the host via RS232 and send RESET signal if host fail.

The ZT-DVR products run over two years in field, such as bank, hotel, highway, factory, hospital, jail, etc.

Chapter 2 Install the Software Package

This software support Windows NT and 2000 operating system. Windows2000 + SP2 (not for SP3) are preferred. The installation process is as follows.

$2-1 Hardware requirement

The host computer should be installed sound card and Network card.

CPU : PIII celeron 800 or larger.

Memory : 128Mbytes for 8-channel (video input) or less, 256Mbyte for more channels.

Display card : ATI Radeon or NVIDIA Geforce series. Suggest install latest display card driver.

When fixing the video compression cards paying attention to radiating heat well

and enough power supply.

$2-2 Operating system and driver installation

Correctly installing the various patch and drivers of the computer. Lastly installing the video compression card's driver. And using Demo of the cards to check.

After installation, do follow first:

③ Disable network card's advance power management.

③ Remove files immediately when deleted. Do not move files to Recycle bin

③ As to some Hard Disk Raid cards, disable hard disk sleep .

$2-3 Main Program installation and setup

$2-3-1 Methods for different video compression cards

Run the setup software package:

Setup$1.exe —— Hik Mpeg1 video compression card
Setup$4.exe —— Hik Mpeg4 video compression card
Setup@1.exe —— Thakral Mpeg1 video compression card
Setup@4.exe —— Thakral Mpeg4 video compression card
Setup$4En.exe —— English edition for Hik Mpeg4 video compression card

When installing, create Directory hyRec in partition c:. The directory, c:\hyRec, is included all files needed for ZT-DVR. There is a shortcut of ZJrec.exe in the menu Start/Program.

$2-3-2 Setup before run

Before using ZJRec.exe, the main program of ZT-DVR, user have to complete the below setup.

$2-3-2-1 Set the keys of the video compression cards and network card

Run ZJSetup.exe : click Start—>Program—>ZJ-DVR. Refer to figure 2-1 in Appendix 2 . User name and password are included in technical reference.

Select the item "Machine No, Card No, Minimize <V7.xx>", click button 'Setup'. Fill the keys of compression cards to "MPEG Card Key No", click button "Save".

For Hik MPEG cards, one key number for one channel. But for other cards, one key for each card.

2-3-2-2 Set Display Mode

Select the item 'Record, Display', click button 'Setup'. Select 'Overlay'.

There are two kinds of display mode (Preview of video card):

DirectDraw : this mode is required to hardware comparatively letting drop.

Overlay : effect is better but display card of the computer must support YUV.

Notice : if select DirectDraw, the color depth of the display card must be 16 bits.

$2-4 Run the program

Click Start ->Program->hy-DVR->hyRec to start the host program. A logon dialog is popped up. When first run the program, the default user name is 'admin', and its password is 'admin' also. Select admin user, input password as 'admin', click OK. A green dialog shows 'Initializing, Please wait' and the host is initializing that may take one minutes or more because some code is download to all channels on video cards. At last the host program displays main interface on full screen.

$2-4-1 Enable video camera (channel)

At main display interface, click 'Setup' into Setup dialog (see figure 2-4A). The dialog posses 4 pages and the first page is 'Record'. (See figure 2-4B). There is the video camera list in the page. Click the cross area of the camera's row and column 'Work' to 'Yes' and 'No' corresponding enable or disable the camera (channel) for video record.

$2-4-2 Setup record hard disk (partition)

Hard disk must be partitioned correctly if run the host program and record the video signal.

When initializing, the program will search all available hard disk partitions which capacity must larger than 2Gbytes and the drive name is d:, e: f: etc. Drive c: is reserved for system disk and not record video files on it. And the program will create directories A, B, C,…on these drives. The first channel video will recorded on directory A, second on B, and so on. If using 8 channel program, A, B, C, D, E, F, G, H will be created on all drives from drive d: and their capacity is larger than 2Gbyte.

There are three combo boxes for hard drives in the setup page :

③ Start Rec Drive : the first drive to store video recorded files;

③ Last Rec Drive : the last drive to store video recorded files;

③ Current Drive : the current recording drive;

If current drive full, the program will delete all recorded files in the next drive and the next drive will be current drive.

If the current drive is the Last Rec Drive, the next drive will be Start Rec Drive. Generally speaking, a system hard disk should be partitioned to drives as many as possible.

Usually set all drives to Group 1 of hard drive and the Group 2 is empty.

Chapter 3 Daily Operations

$3-1 Power on

③ Press the power button on the front panel.

③ POWER lamp shines, Electric fan stirs, CRT shines, and the computer goes into the starting procedure.

③ When Prompting Ctrl+Alt+Delete, press down Ctrl and Alt, then Delete, input the password of administrator or other computer user. The computer enters the Windows2000\NT desktop.

③ Run the shortcut of hyRec either in Start/Program/ZJ-DVR or on the desktop which created by dragging the c:\hyRec\hyRec.exe to the desktop. Logon to the program by entering the user name and password which default are all ‘admin’. (see figure 3-1)

$3-2 Exit and power off

③ Stop video recording, disarm. When being video recording or arm status, exit is forbidden.

③ Click the exit button on main interface of the program, select OK on the confirm dialog and the program will exit to desktop or shutdown which result decided by setup. Notice : User level must be over exit-level which default is level 1.

$3-3 Start and stop video recording

$3-3-1 Manual record

Under the record mode, user must manually click the button ‘Rec’ to start and stop video recording. On the recording status, the lamp in Record area on the main interface will show red. And show green when not recording.

$3-3-2 Timer Record

When on Timer record, video recording start and stop according to the schedule set in Record Timer dialog for each channel.

User also may click button ‘Rec’ to stop recording when on Timer Record.

$3-3-3 User level for Start/Stop record

User level must be over the Record-level to start and stop video recording.

$3-4 Arm and Disarm

$3-4-1 Arm/Disarm for alarm processing

The system is not processing the alarm signal and motion detection if it is on disarm status. When merely on arm status, every alarm is received, answered and processed. Many functions of the host program require the relevant alarm input so that it is important for arm.

$3-4-2 Three arm objects

③ Sensor : On sensor object, the system processes only for the alarm signals from ZT-ALM or ZT-RM.

③ Motion Detection : On this object, the system processes only for the result of motion detection of cameras.

③ Sensor+Motion : The system processes both of alarm input and motion detection.

$3-4-3 Select arm area

Any alarm sensor has an area property: All, Area 1, Area 2. If a sensor is set to area 1, the sensor is armed only when the area 1 is checked on arm object dialog.

On arm object dialog, you can select Area 1, Area 2 or both.

$3-4-4 Pop-up map if alarm

If an alarm input has a position on one map and 'Show map after alarm' on Arm object dialog is enabling, the map will be popped up when this alarm is trigged.

$3-4-5 Sending alarm

If 'Send alarm' on Arm object dialog is enable and Client IP is filled with true Client-side IP address, the host software will send the alarm signal to client-side software when an alarm is trigged.

$3-4-6 Arm object dialog

Click the button 'Arm' on main interface will pop up the Arm object dialog. Click OK the system will be arm status.

Notice : if not use ZJ-ALM, the dialog will not pop up after one hour and arm directly.

$3-4-7 Disarm

Click the button '/Arm', the system exits from arm status.

$3-5 Adjust image quality

Adjust Brightness, Contrast, Saturation and Hue to optimize the image quality of every camera. Click the preview window of one camera, the camera is selected and its title will be red. All quality adjustment and PTZ control are for the selected camera.

$3-6 Window display mode

Preview windows of camera (video input) shows on screen with different size.

Mode 1 : show one of video preview windows, biggest size.

Mode 4 : show four of video preview windows.

Mode 9 : show nine of video preview windows.

Mode 16 : show all sixteen video preview windows (for 16-channel version).

Mode 24 : show all twenty-four video preview windows (for 24-channel version).

Double click the preview window will turn mode 1, 4 and 9/16/24. Also select the button showed in figure 3-6 (1024x768 version only) to turn mode.

Right double click the preview window will change to full-screen or return from full-screen. If alarm trigs and on full-screen, return to normal display at once.

To control Pan to right/left, Tilt to up/down, click Zoom/Focus/Iris to control the lens. (See figure 3-7)

Click Aux1 to switch on/off the aux1 output of the decoder. Click Aux2 to switch on/off the aux2 output.

Right click Aux1 to start Auto-Pan and right click Aux2 to stop Auto-Pan.

If speed dome is selected (such as Pelco-P), an Icon of speed dome will display at center of the arrow buttons. Right double click on the icon, dialog 'Set Preset position' is pop up. On the dialog, save or cancel one preset position for selected speed dome. And adjust pan/tilt speed and set stay time of preset tour. Click on the icon, dialog 'Go to Preset position' is pop up. On the dialog, select a preset position, and 'Go to Preset' and the speed dome will go to the position. Also on the dialog, start or stop preset tour.

$3-8 View alarm log

$3-8-1 Open alarm log

When alarm is trigged, the lamp of 'View log' will be flashed. Click the lamp to pop up the dialog 'View alarm/system log'. If the lamp not flashed for no alarm in, double click the lamp. (See figure 3-8-1)

$3-8-2 Select different alarm log content

The display is divided to the distinct alarm substances, click its button to select.

③ External alarm : Alarm signal from external device ZT-ALM and ZT-RM.

③ Video Record : Video lost, compression card fail, disk full etc.

③ Other : User logon/off, setup and so on.

③ History : Deleted records of above.

$3-8-3 Delete alarm log

Click the button 'Delete all' to transfer current records to history. The history reserves a lot of records for long time.

$3-8-4 Reset alarm output

Click the buttons of 'Reset Alm Out 1' and 'Reset AlmOut 2' to switch off the output 1 and output 2 of ZJ-ALM.

$3-9 Video Playback

Click the button 'Play' to playback interface and all preview windows are hided (see Figure 3-9).

$3-9-1 Select recorded file to play

Click the button 'Open' to pop up dialog 'Select Play Files'.

Choose date, start time, end time, selected chan, the files in the search range are listed on right table. If there is any file in the table, click the button 'Play List' to play all files in the table. Or click one file name in the table, click the button 'Play File' to play this file.

If 'This channel' in dialog 'Select Play Files' is checked, all of files recorded at this channel (video input) are listed on right table and no date/time limit.

If 'All' is checked, all of video record files are listed on the table.

Check the 'Find Play File' and click 'Select' to open a file dialog. On the dialog, select a video recorded file to play.

$3-9-2 Operations when playing

The buttons for playback is Play/Pause, Stop, fast forward, fast backward, double play

rate, half play rate, picture and processing, Enlarge play.

When playing, click Play/Pause to switch playing and pause each other, click Fast forward to step over 10 seconds per second and Fast backward to back 10 seconds, click Double play rate to double play rate and Half play rate to half the play rate. Maximum play rate is 4 or 1 when recording and slowest play rate is 1/25. For Hik MPEG4, click the playing window to play single frame.

Right double click the playing window to switch window size. If right double click the window when press down Shift key, switch normal size to full screen.

When on pause, the button of 'Picture and Processing' is enabled. Click the button to snap the current picture on play window and save the picture to disk. The picture is displayed on original size and enlarged size which size may be adjusted using mouse drag. Click print to print out the picture.

$3-9-3 Special playback

If date/time/chan selected, click the button 'To 4 Player' to select channels played on 2nd , 3rd and 4th Frame (Play window). Then click the button 'Play 4 ch' to play the recorded files at these channels selected synchronously.

When on pause, the button of 'Enlarge Play' is enabled (1024x768 version only). Click the button, there are two play windows the left one is original image, the right one is enlarged image. Click button 'Stop' to exit enlarge play mode.

Chapter 4 Normal Setup

$4-1 Auto-boot when power fails and recovers

Do following for Auto-Logon function.

$4-1-1 Set BIOS to boot when power-on

Set PWR-Fail item in the motherboards' BIOS to ON.

$4-1-2 Auto-logon of operating system and program

Select the Item 'Power down, Watchdog' in ZJSetup.exe.

Click the button 'Auto-Logon and Run' to dialog 'Setup Auto-Logon and Run' (see figure 4-1-2).

Firstly select 'Auto-logon Windows' and input the windows user name (must be system administrator) and password. This is for auto-logon windows when the computer boot up.

Input the auto-run program, default is c:\hyRec\hyrec and select Enable and input the user name and password of ZJRec.

Input Run Password (1234567890) and click OK. Click the OK on the warning dialog, the message 'Modify Register success' means that ZJrec.exe is auto-run after windows logon.

$4-2 Timer power down

Enable the selection of Timer Power off in the item 'Machine No, Card No, Minimize <V7.xx>' of the program ZJSetup.exe.

Select the Power down level and Power down mode in the item 'Power down, WatchDog' of the program ZJSetup.exe.

Finally select Yes for the selection of 'Timer Power off' at the dialog 'Record Timer' which will pop up if click the button 'Setup' on ZJRec.exe and click the button 'Timer Setup' on the Record page. The button 'Timer Setup' is enabled only Timer Record is checked.

$4-3 Program minimization

The minimization is default disabled for safety.

To enable the function, set Enable in the selection of 'Program Minimize' in the item 'Machine No, Card No, Minimize <V7.xx>' of the program ZJSetup.exe.

Right double click in the display area of Date/Time/HD info to minimize the program.

$4-4 Video camera name

The each video camera name may liberally be fixed.

Select the item 'Camera' in ZJSetup.exe and click the left button 'New ' to add one group its name is liberally fixed. Click the Group to be selected, and click right 'New' to add some cameras.

For any camera to set its name, position (used in Map), Input which should be same as the column 'No.' for non-matrix version, MapNo which is map number this camera icon will displayed on, X and Y is the coordinates the camera icon displayed on the map. The last column, 'Map to AlmIn', is for mapping the motion detection to external alarm channel. If the value is 0, there is no mapping, 1 for mapping to the first alarm in.

$4-5 Auto-Arm

$4-5-1 Arm when program start

User could set default arm status when program start.

On the item 'Network, Serial comm, Alarm interface' in ZJSetup.exe there two selections of 'Default status when start program', one for sensor (external alarm), another for motion detection. If either selection is checked, the relative arm object is on when program starts.

$4-5-2 Timer arm

Timer arm is only for Sensor only. Timer arm for Motion detection refers to $4-8-1-4.

Select Arm Mode to 'Timer' and Start Time and End Time on the 'Cam&Alm' page which will pop up if click the button 'Setup' on ZJRec.exe and click the 'Cam&Alm'.

$4-6 Camera tour

Set the Stay Time to non-zero (1-60) on the 'Cam&Alm' page. If the stay time is 0, the camera is not taking into touring.

Click the button 'Start Tour' on the dialog 'About' which will pop up when click 'About' on the main interface of hyRec.exe.

After start tour and the preview display mode are 1 or 4, the preview will be changed from one camera to next camera which stay time is not zero.

Click the button 'Stop Tour' to stop tour. The position of the button is same as Start Tour.

$4-7 User manager and operation level

Add, delete or modify user on the User page which will pop up if click the button 'Setup' on ZJRec.exe and click the 'User'.

Notice : the operator must have the SuperUser level else no User page displayed.

$4-7-1 Add user

Input User name and password of new user, select its level and click 'New' to add the user to the user list. Click 'Save' to save the result.

$4-7-2 Modify

Click the user to be modified in the user list and edit name/password/level of this user on the right and click the button 'Modify' and 'Save'.

$4-7-3 Delete user

Click the user to be deleted in the user list and click the button 'Delete' and 'Save'.

$4-7-4 Special operation level setup

③ Playback level : Select 'Play Level' on the 'Advance Setup for xth chan' which will popup when click 'Setup' of the column 'Adv' on the 'Record' page of hyRec.exe. (see Figure 4-7-4)

Only the user which level larger than the play level can play back the recorded files for this channel.

③ Power-off level : Power-off level is set in the item 'Power down, WatchDog' of

'ZJSetup.exe'. Only the user which level larger than the power-off level can exit program.

$4-7-5 Level for different operations

Operation	Default level (Max is Super, Min is Level 5)
Setup	Level 2
Setup when recording	Level 1
Playback	Level 4
Advance operation of playback	Level 1
Record	Level 3
Arm / Disarm	Level 3
View Alarm log history	Level 1
Delete alarm log	Super
Setup for PTZ/Tour/Alarm	Level 1
Advance operation for Record	Level 1
Select Hard Drive for recording	Level 2
Delete recorded file	Super
Map	Level 4
Alarm out control	Level 3
Alarm out group control	Super
PTZ/Brightness/Contrast/Saturation/Hue	Level 4
PTZ for network	Level 5
User manager	Super
Network user and access	Super

$4-8 Video Record

$4-8-1 Basic record modes

$4-8-1-1 Cycle of hard disk drives for recording

If the 'Cycle Record' is checked, the recorded drive will be cycled from 'Last Rec Drive' to 'Start Rec Drive'.

$4-8-1-2 Manual Record

If one channel is selected with Manual Record, click the 'Rec' on the main interface of ZJRec.exe to start and stop recording of the channel.

Notice : select 'Normal Record' on the dialog 'Advance Setup for xth chan'.

$4-8-1-3 Timer Record

If one channel is selected with Timer Record, the channel recording is started and stopped according to the settings of time duration 1 and 2 for any channel and every week on the dialog 'Record Timer'.

Notice : select 'Normal Record' on the dialog 'Advance Setup for xth chan'.

$4-8-1-4 Alarm Record

Select 'Alarm Record' on the dialog 'Advance Setup for xth chan'.

The recording is started when an assigned alarm input trigged or motion detected on the camera. There are two alarm sources to be selected.

The recording is stopped when the selected Record Delay is elapsed after alarm restored or no motion detected on the camera. Also click Disarm (/Arm) to stop all channels that are Alarm Record. Delay time is between 5 seconds to 5 minutes.

Pre-record for alarm record may setup in ZJAdvSetup.exe. Pre-record time varies 0 to 60 seconds (Maximum value is decided by the system memory capacity).

It is necessary to doing following for motion detection:

Select 'Yes' for 'Motion detect' and input Thres 1 with 1 to 50, typical 10. Click 'Select Area' to select detection areas up to 8 areas. 0 is no motion detection, 1 is most sensitive, For Hikvision MPEG4 compression card, the hundred digit is valid for sensitivity and default is 3, 1,2 is more sensitive and 4,5 is lower sensitive, such as 210 is more sensitive than 10 or 310. The hundred digit 1,2 may be used for clear image and 4,5 for noisy image.

Thres 2 is only used for 'Threshold Timer' that change to Thres2 from thres1 when in the idle durations same as Timer Record (Timer Record only for normal record, so the timer settings in Alarm record is used for 'Threshold Timer' and 'Motion Detect Timer').

$4-8-1-5 ZJbrid Record

ZJbrid Record is the combination of Normal Record and Alarm Record. When on the stop status of Normal Record, the channel is changed to Alarm Record.

$4-8-2 Adjust record quality (compression code rate)

Select 'Record Quality <Global>' to change the code rate. The larger quatity, the larger code rate and much hard disk space needed.

For MPEG1 cards the quality is best if select '2 Hours/GB' that records 500Mbyte files per hour for one channel.

For HikMPEG4 cards the choices are High Res, Higher, Normal, lower, Dynamic 1, Dynamic 2, Dynamic 3, 12 Frm/S, 6 Frm/S, 3 Frm/S, 1Frm/S. Because the code rate varies for different scene and motion speed, the 'High Res' may take disk space 100MB to 1500MB per hour and the 'lower' may take 50MB to 500MB per hour. But for Dynamic 1,2,3 the max code rate is limited to a value and if the code rate is over the limit, program try to decrease frame rate from 25 Frames/S (PAL). The lower frame rate, the lower code rate. If the code rate is still higher than limit, decrease frame rate and image quality until Minimum Frame Rate (default is 6 Frames/S). Dynamic 1 starts from high res quality, Dynamic 2 from Higher and Dynamic 3 from Normal. The first 4 selections are also affected by the 'Max Record Rate' but image quality may be much worse if the 'Max Record Rate' is too less than the rate that no rate limitation.

$4-9 Setup for alarm

$4-9-1 How to receive the external alarm

Connect the RxD, TxD and GND of the ZJ-ALM device to TxD, RxD, GND of the RS-232 on Host.

Default COM port is COM1. The port can be selected to COM2 on the item 'Serial comm, Pre-record time' in HyAdvSetup.exe.

Set the 'Alarm in number' to 16 because the new ZJ-ALM is 16 alarm inputs on the item 'Network, Serial comm, Alarm interface' in ZJSetup.exe

Add 16 alarm rows in the item 'Alarm in (Sensor)' inHySetup.exe. For every alarm row, edit Sensor Name, Position, and so on. Click 'more' to edit more parameters, such as Sensor Type, Enable/Disable, Input type Normal Open or Normal Close, Beep if alarm trigged, close AUX1 of Decoder if alarm trigged, Alarm out action, Arm area, Record delay mode, Preset action for Speed dome, Send alarm to
remote computer. The columns MapNo, X,Y are the sensor icon position on MAP. The four Mon/Cam reserved for Matrix version and Addr for ZJ-RM only.

$4-9-2 Setup for alarm out

For every alarm input, there are four alarm out selection Output A, Output B, Output C and Output D. If any output is set non-zero, for example 2, the 2th alarm out will be closed when alarm input trigged.

For ZT-ALM, there are two alarm outputs, 1 and 2. Add 2 alarm out rows in the item

'Alarm out' in HySetup.exe. The alarm out closes if an alarm trigged and its output A/B/C/D is this alarm out. The closed alarm out may be reset by Manual, or with alarm input restored, or with recording stopped, when the column Control is set to 0, or 1 , or 2. The columns MapNo,X,Y are the alarm out icon position on MAP. The column Addr is for ZT-RM only.

$4-9-3 Mapping motion detection to external alarm

The motion detection of any camera can be mapping to any alarm input so the motion detection becomes a virtual alarm sensor and the setting for this alarm input is used for the camera if motion detected. For example, beep, alarm output A/B/C/D.

It is necessary to enable 'Motion detect map to Alarm in' in the item 'Network, Serial comm, Alarm interface' in HySetup.exe. Also set the column 'Map to AlmIn' in the item 'Camera' in ZJSetup.exe to wanted alarm input number. If set to 0, no mapping. To start the mapping, select Arm object 'Sensor+Motion'.

$4-9-4 Mapping video-lost to external alarm

The video-lost of any camera can be mapping to any alarm input so the video-lost becomes a virtual alarm sensor and the setting for this alarm input is used for the camera if motion detected. For example, beep, alarm output A/B/C/D.

It is necessary to set 'Map to Alarm in when video lost' to 1...16 in the item 'Audio Preview, Video lost alarm' in hyAdvSetup.exe. If set to 0, no mapping. Also set to 'Yes' at the column 'Video Lost Alarm' for the cameras in the same item.

$4-9-5 Map for alarm

Click the area of Alarm lamp on the main interface of the host program to pop up a Map. If enable 'Show Map after alarm' when arm is set and an alarm trigged, the map on which the alarm icon is will pop up.

Create map1.bmp, map2.bmp, … in the directory c:\ZJRec. The bmp size is 500x400 and 24 bits color. Map1.bmp is for the first map, map2.bmp for second, and so on.

Add map rows in the item 'Map' in ZJSetup.exe and edit the map name. The first map is root map which UpMapNo must be 0. The other map, which UpMapNo is not zero, is a sub-map of one of upper maps. The value of UpMapNo must less than the number of this map. The X,Y of a sub-map set the map icon positon on the upper Map.

There are six type icons, Camera, Alarm in, Alarm out, sub-Map, Alarm out group, Speed Dome, on the map. You can drag these icons to any position on the map by pressing down Shift+Ctrl and click the icon and move mouse anywhere.

Clicking or right-clicking icon will pop up a dialog that displays some information.

Chapter 5 Advance Setup

$5-1 Mask the Preview (display window) of the video camera

Preview of camera may be masked by a static picture and no effect on recorded files.

Create Logo1.bmp and Logo2.bmp in the directory c:\ZJRec. The bmp size is usually 176x144 and color depth is 24bits.

Select the column 'Background Picture' in the item 'Record, Display' in ZJSetup.exe to Not Use, Logo1, Logo2, Mask. Not Use means not mask the preview, Logo1 means using Logo1.bmp as backgroud picture, Logo2 using Logo2.bmp. For the selection of Logo1 and Logo2, check the 'Display mask' on the 'Advance Setup for xth chan' in HyRec.exe. For the selection of Mask, it is partial mask on the preview. The mask area is the first area when set motion detect area.

$5-2 Time/Date and Character on screen display

OSD function displays Date/Time and string on preview of camera.

Select the item 'Text on Screen' in HyAdvSetup.exe. On the dialog 'Text on Screen', select card type, edit the columns 'Line' and 'Content'. The content will be displayed on preview and recorded on files.

$5-3 PTZ or Decoder Control

PTZ or Decoder's RS-485 D+/D- connect to A/B of ZT-ALM. Another way is connecting D+/D- to RS-232/485 convertor which connects to COM port of the Host. The second way is a custom-define function.

If 'Control PTZ when mouse move' in ZJSetup.exe is enabled, operator could press down left-button on mouse and move around to control the Pan/Tilt's movement.

$5-4 Network setup

Network setup for Host is to edit Network user and access limits.

Network user manage is same as local user manage. Only the remote user of client software in the network user list of the host could connect to host to view image of the camera on the host. For example add a user, XYZ, in the network user list on the host, the client logon user name should be XYZ.

There are two methods to access limits for each video input. One is IP address limit. The IP address list may fill 1 to 8 addresses. Only the client which IP address is in the IP address list could connect to the host. The second is User Level limitation.

Appendix 1 Maintenance

- ③ **Maintain the neat and tidy of surrounding environment.**
- ③ **Maintain the Host ventilation well. It is important to radiate heat. Temperature and humidity.**
- ③ **Guarantee power supply well.**
- ③ **Periodic check every electric fan whether regular work.**
- ③ **Periodic restart and check the host monthly.**
- ③ **Shutdown according Windows operation manual.**
- ③ **Forbid install other software.**
- ③ **When the host connects to network, Pay attention to the virus protection.**

Appendix 2 Illustrations

Figure 2-1

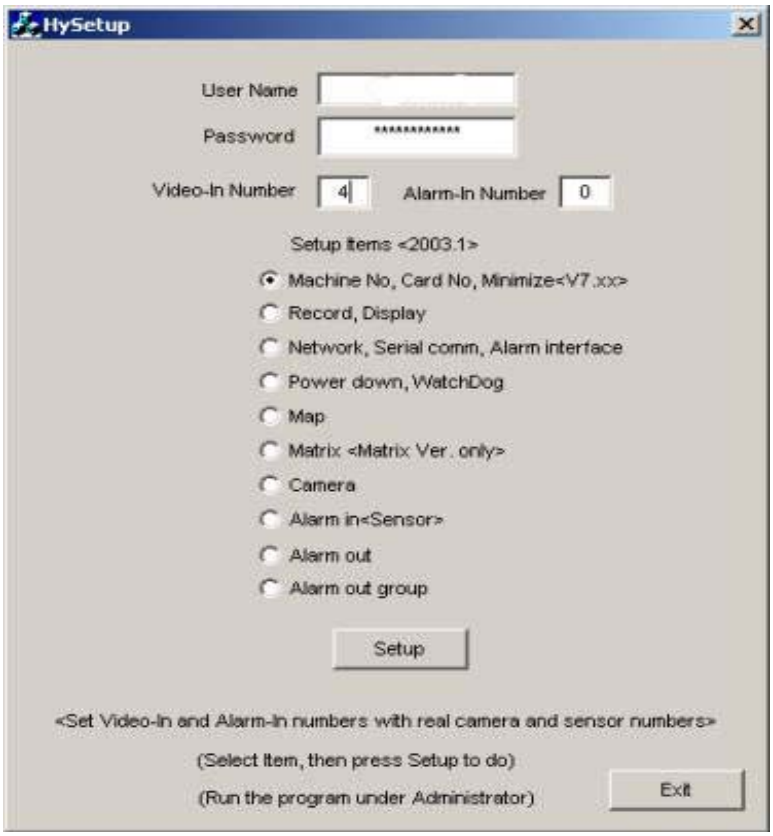


Figure 2-2

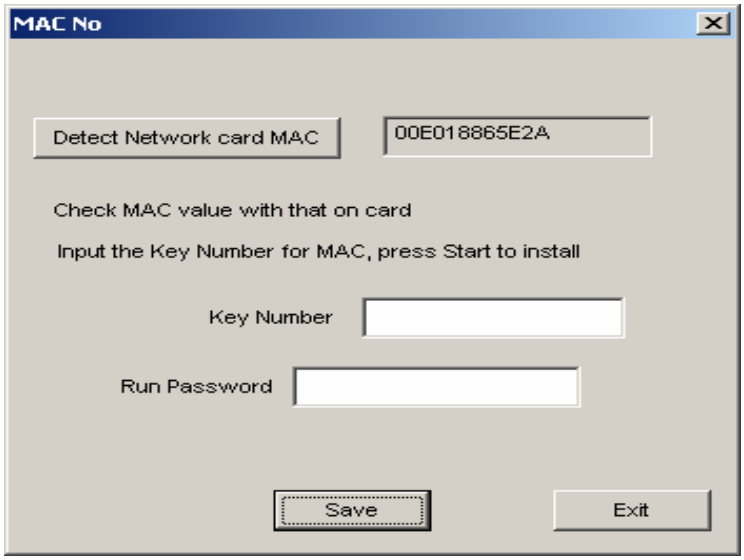


Figure 2-4A

Figure 2-4B

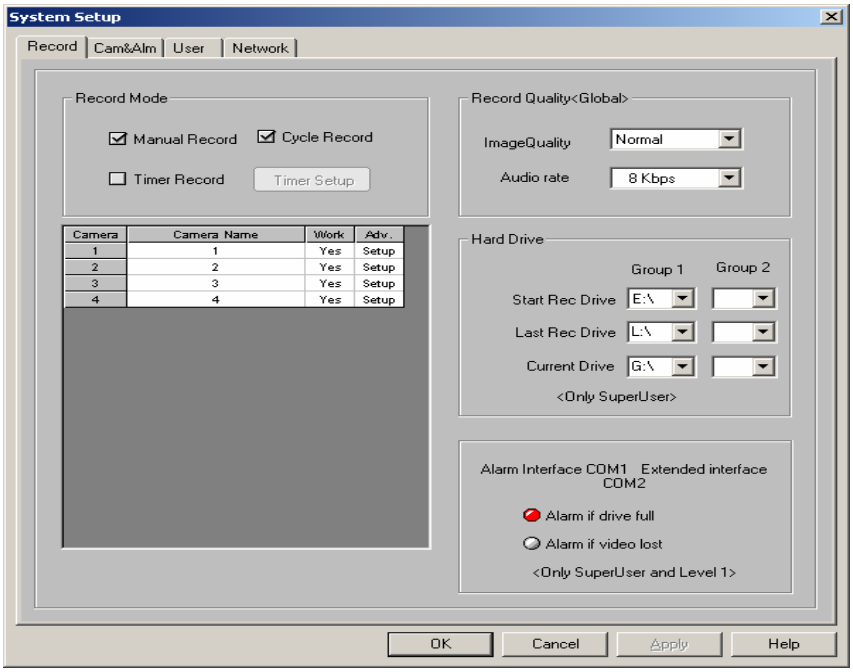


Figure 3-1

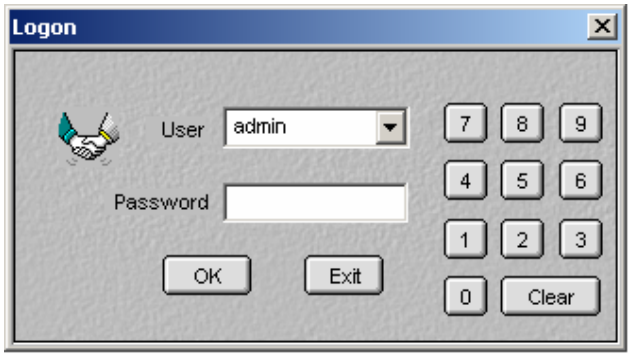


Figure 3-6

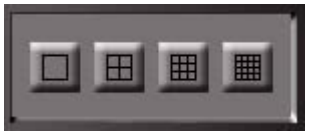


Figure 3-7

Figure 3-8-1

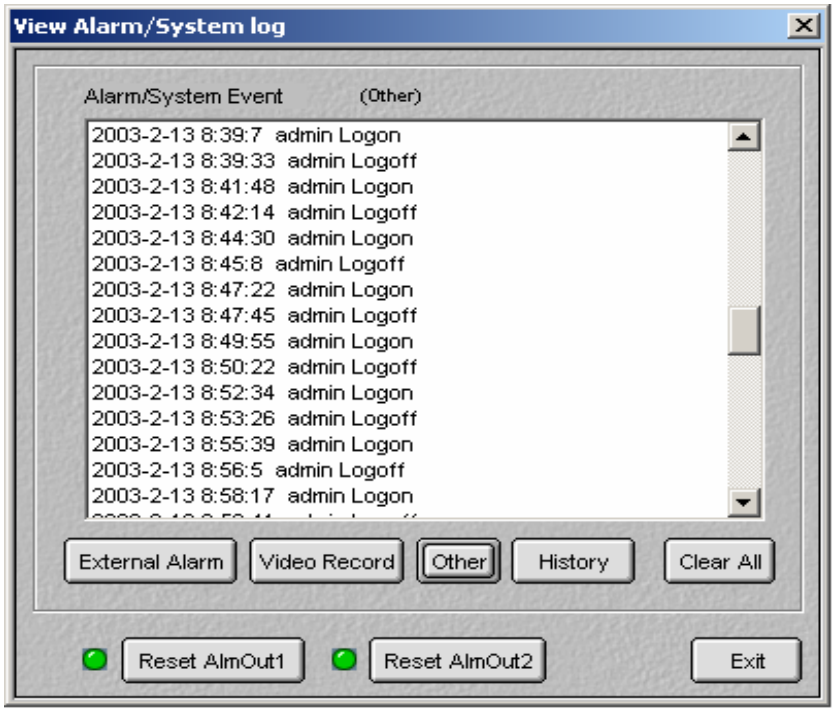


Figure 3-9

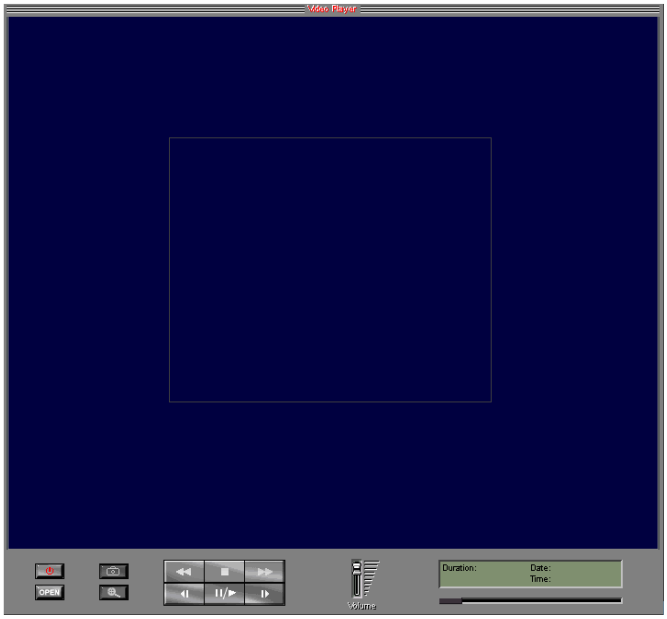


Figure 4-1-2

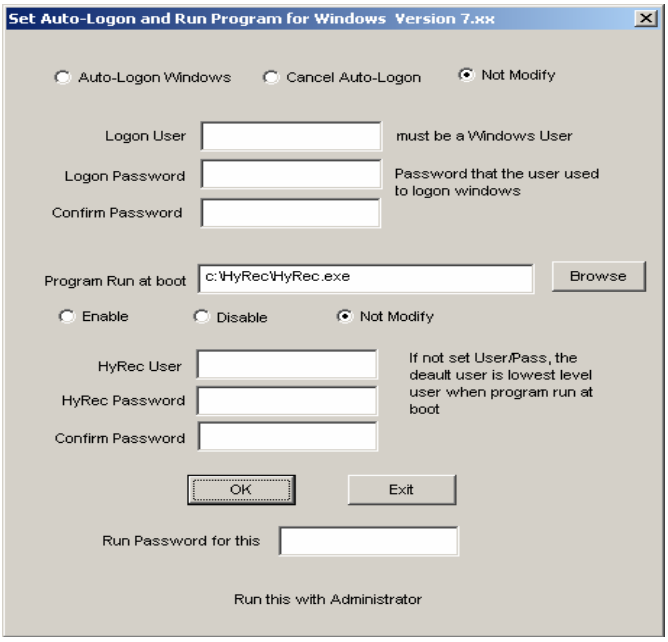


Figure 4-5-2

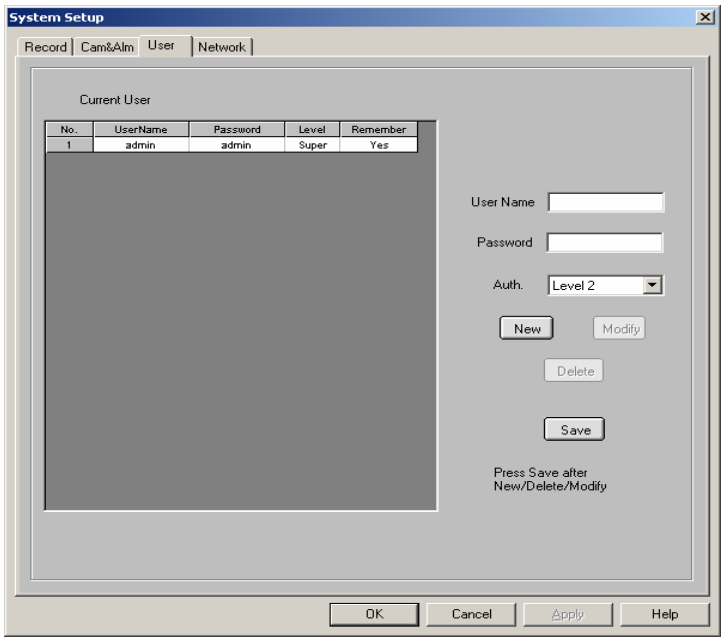


Figure 4-7

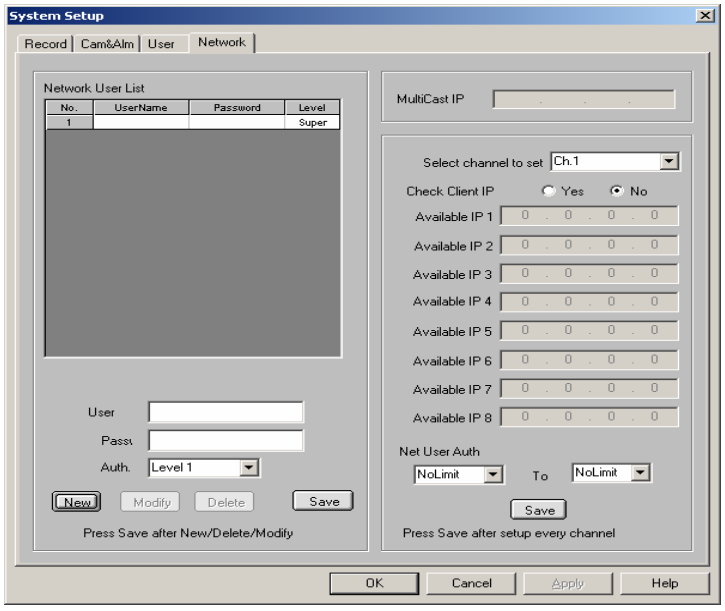
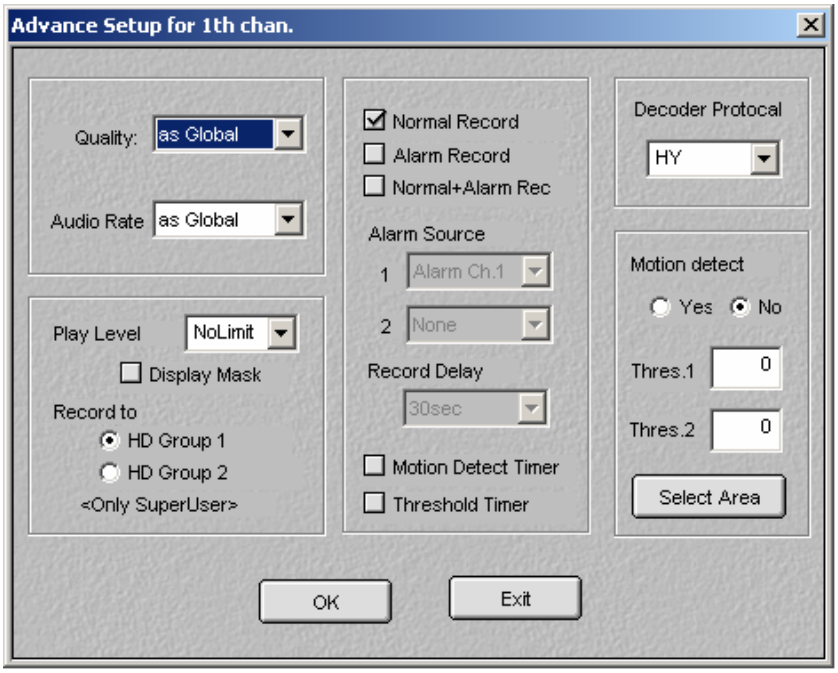


Figure 4-7-4



Playback Buttons

fast backward

Fast forward

Stop

Half play rate

Double play rate

Play/Pause

Image Processing

Enlarge Play